

REMARKS

Claims 7-11 were pending in the application and all claims have been rejected under Section 103 as being obvious. Claims 7 and 11 have been amended and claims 12-17 have been added. Reconsideration and favorable action are requested.

Claims 7 and 8 were rejected under 35 USC 103 (a) as being unpatentable over U.S. Patent No. 4063287 (Van Rosmalen) in view of U.S. Patent No. 5392150 (Inagaki, deceased, et al). In view of the amendments, this rejection is respectfully traversed.

As amended claim 7 includes the following definition of the mount.

said mount including a pair of torsion springs extending in opposite directions from the opposite edges of the plate member and being rigidly attached to the frame, the torsion springs being positioned coaxially along the axis of rotation of the plate member,

The Van Rosmalen reference uses a very different structure with regard to the oscillating plate. The tracking mirror 53 of Van Rosmalen includes oscillation compensation 56 and flat springs 57 formed from quartz. The flat springs 57 obviously do not extend from opposite edges of the plate, are not rigidly attached to the frame and are not positioned coaxial along the axis of rotation of the plate member. Therefore, the language added by the amendment clearly distinguishes the Van Rosmalen reference.

The Inagaki, deceased, et al, reference concerns a bar code reader and the Van Rosmalen reference concerns an optical disk reader. These technologies are quite different and it is respectfully submitted that the patents are not analogous art. In other words, a person of ordinary skill in the field of optical disk readers would not think to consult the bar code scanner art. When it oscillates, the scanner in an optical disk reader hardly moves at all. An optical disk scanner oscillates a laser beam across a few tracks of an optical disk. Since the tracks of an optical disk are extremely narrow, the scan angle of this type of scanner is very small. Note that the abstract of Van Rosmalen states that the oscillator moves at a high frequency and a small amplitude. Typically, the high-frequency and a small amplitude of this type of scanner would be entirely inappropriate for a bar code scanner. Therefore, a person of ordinary skill in the bar code scanner art

would not think to consider scanners used in the optical disk reader art, and the combination of these two references is inappropriate.

However, even the combination of these two references does not disclose the structure of claim 7. As shown most clearly in figure 11, Inagaki, deceased, et al uses a single torsion spring 26. As shown in figure 5, Inagaki, deceased, et al may also provide a support finger 29, but it is not performing the function of a spring. Thus, the mounting system of claim 7 is not disclosed by the cited references alone or in combination.

The examiner cites Inagaki, deceased, et al for its disclosure of the concave mirror 20. The examiner stated that "It would have been obvious to one of ordinary skill in the art to make the reflective surface of Van Rosmalen to be a concave mirror having an optical power for the purpose of converging a light beam.... It is respectfully submitted that the flat mirror 14 of Inagaki, deceased, et al corresponds to the reflective surface set forth in claim 7. In claim 7 as amended, the plate and reflective surface are disposed in the path of the light beam. In Inagaki, deceased, et al, the concave mirror 20 is not truly disposed in the path of a light beam. The patent discusses the fact that the concave mirror 20 converges the "divergent laser beam" reflected from the bar code label. See for example column 6, line 20 or column 9 lines 39. However, a divergent light beam is really not a beam anymore because it is diverging. It will be appreciated that light striking a bar code will be reflected in different directions and the beam will diverge because a bar code is not a mirror. Therefore, in contrast to claim 7, it is submitted that the concave mirror 20 is not disposed in a light beam.

In addition, is clear that the concave mirror 20 of the Inagaki, deceased, et al reference does not "scan the light beam through a scanning pattern in at least first and second directions at the oscillation frequency". The reflective surface of claim 7 must perform that function. The flat mirror 14 of the Inagaki, deceased, et al reference scans the light beam, but the concave mirror 20 collects the divergent light produced by the bar code and focuses it on a detector or sensor. The concave mirror does not scan a light beam through a scanning pattern, as required by claim 7. Thus, the concave mirror does not perform the required function of the reflective surface of claim 7, and there is no suggestion to do so. Since Inagaki, deceased, et al performs this function with a flat

mirror, and there is no suggestion to use a concave mirror to perform this function, there is no teaching or suggestion to substitute a concave mirror for the flat mirror of van Rosmalen.

Claim 8 depends on claim 7 and further provides that the mirror is concave. The discussion above with respect to the concave mirror 20 of the Inagaki, deceased, et al reference is equally applicable to claim 8. Thus, for the reasons discussed above, claim 8 should be allowed.

For these reasons, it is respectfully submitted that claims 7 and 8 define over the cited references, and allowance is requested.

Claims 9-11 were rejected under 35 USC 103 (a) as being unpatentable over Van Rosmalen in view of Inagaki, deceased, et al and further in view of Slater. In view of the above amendments, this rejection is respectfully traversed.

Claim 9 is dependent on claim 7 and a further defines the reflective of surface to be a Fresnel lens. Claim it 10 is dependent on claim 7 and it further defines the reflective surface to be one or more diffractive optical surfaces having reflective characteristics. These additional features added to claim 7 define a combination not disclosed or suggested by the prior art, and allowance is requested.

Claim 11 has been amended in a manner consistent with the amendments of claim 7. The arguments with respect to claim 7 are equally applicable to claim 11. Thus, for the reasons stated above, claim 11 should be allowed as well.

Claims 12-17 have been added to further distance and distinguish the Van Rosmalen reference. As discussed above, the Van Rosmalen reference operates at a high frequency and a small amplitude. In fact, compared to the present scanner, the oscillator is almost stationary. It oscillates over a very tiny scan angle so that it scans a laser beam across tiny optical tracks on an optical disk. The new claims 12-17 specify various characteristics about the oscillation in the present invention. Four of these new claims require that the oscillator operate with a scan angle of more than about plus and minus 15 degrees. The oscillator shown in the Van Rosmalen patent could not possibly operate at such scan angle. Another four of these claims require that the oscillator operate at about 2.6khz. Again, the van Rosmalen device could not operate at that frequency. It needed to

operate at more than 10 times such frequency, even in 1977 when optical disk readers were very slow by today's standards. These claims 12-17 are even further removed from the van Rosmalen reference and should be allowed.

These new claims are supported by the specification, for example at page 27, line 18 wherein it states:

For this embodiment, it is preferred to provide a sufficient power to the coil(s) 58 to produce oscillations about the rotational axis (line 3-3) of greater than about +/- fifteen degrees at a nominal frequency of about 2.6 kHz. The system can produce lesser amounts of oscillatory motion; but for laser printing applications, it is most preferred to induce rotations of greater than +/- fifteen degrees to produce quality printing.


The applicant has now made an earnest attempt to place this application into condition for allowance. If the examiner believes that a phone conversation with the undersigned would expedite the early disposition of this application, he is respectfully request to call.

In the event this response is not timely filed, Applicants hereby petition for the appropriate extension of time and request that the fee for the extension along with any other fees which may be due with respect to this paper be charged to our Deposit Account No. 12-2355.

Respectfully submitted,

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